

## INTEGRATED DIRECT CONVERSION SATELLITE TUNER

### ABSTRACT OF THE DISCLOSURE

A direct conversion satellite tuner is fully integrated on a common substrate. The integrated tuner receives an RF signal having a plurality of channels and down-converts a selected channel directly to baseband for further processing. The integrated tuner includes on-chip local oscillator generation, tunable baseband filters, and DC Offset cancellation. The integrated tuner can be implemented in a completely differential I/Q configuration for improved electrical performance. The entire direct conversion satellite tuner can be fabricated on a single semiconductor substrate using standard CMOS processing, with minimal off-chip components. The tuner configuration described herein is not limited to processing TV signals, and can be utilized to down-convert other RF signals to an IF frequency or baseband.

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